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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/620,373

07/20/2000

Michael R. Arneson

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12/27/2005

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EXAMINER

TSE, YOUNG TOI

ART UNIT

PAPER NUMBER

2637

DATE MAILED: 12/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/620,373

Applicant(s)

ARNESON ET AL.

Examiner

YOUNG T. TSE

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3, 5 and 6 is/are allowed.
- 6) ☒ Claim(s) 8 and 10-29 is/are rejected.
- 7) ☒ Claim(s) 4 and 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings were received on September 15, 2005. These drawings are acceptable.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "803" has been used to designate both "Data Ready" and "Channel Clock" in Figure 8. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 4 and 7 are objected to because of the following informalities: in line 3 of both claim 4 and claim 7, "deskew" should be "deskew circuit". Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 10-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The link level protocol, the driver, the driver circuit, the impedance control circuit, the canceller/equalizer, the receiver, and the deskew circuit recited in claims 10, 12-13, 15-16, 19-20, 22-23, 25-26 and 29 all lack cooperation or connection with each other, wherein claims 11, 14, 17-18, 21, 24, and 27-28 depend upon claims 10, 13, 16, 20, 23, and 26.

Allowable Subject Matter

6. The indicated allowability of claims 8 and 10-29 is withdrawn in view of the newly discovered reference(s) to Taylor, Pocrass and Doluca. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 10-12 and 20-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Pocrass (US 5,428,806 A).

With respect to claims 10-12 and 20-22, Pocrass discloses a computer networking system in Figure 15 comprising a first processor module 8b, a second processor module 8c, a first transceiver 50a, and a second transceiver 50b for communication through an I/O module 6a. Figure 10 shows a channel interface of one of the transceivers 50a and 50b including a connector 182 which corresponds to the link level protocol, a differential driver 190 or 194 which is controlled by a downlink data or video data which is inherently controlled by an impedance control circuit for controlling the impedance between the transceivers over a transmission line, a line equalizer 186, and a differential receiver 188.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor (US 6,573,764 B1) in view of Doluca (US 5,760,620 A) and Miller et al. (Previously cited).

With respect to claim 8, Taylor discloses a driver/receiver circuit in Figure 7 or Figure 8 for use at one end of a simultaneous bi-directional differential signal line while being driven at the other end by a similar circuit.

Referring to Figure 8, the driver 30 drives an output signal (36A or 36B) on a communication medium (35A or 35B) as a function of a first signal, modifies the output signal as a function of an external signal, increases a voltage swing of the output signal, the receiver 31 receives a second signal (38A or 38B) from the communication medium, combines the first and second signals to extract a receive signal as the output signal of the receiver 39 (column 5, lines 21-43; column 9, line 21 to column 10, line 20).

Taylor fails to teach that the increased voltage swing of the output signal as a function of temperature.

Dolucas discloses an analogue driver circuit drives a high-capacitance clock signal line inside an integrated circuit and teaches that cold temperatures and fast process variations increase the drive of a clock driver, causing the output voltage swing to increase, which increases power (column 4, lines 56-59).

Therefore, it would have been obvious to one of ordinary skill in the art to increase the voltage swing by adjusting the temperature as taught by Doluca in order to increase the power of the driver circuit.

Taylor also fails to show or suggest that the output signal 39 of the receiver 31 to be deskewed.

Miller discloses a transceiver circuit in Figure 5 comprising data receivers 216 and deskew buffers 506 for temporary storing the deskewed data prior the transmission of the received data.

Therefore, it would have been obvious to one of ordinary skill in the art to deskew the received data before further processing of the received data as taught by Miller.

12. Claims 13-19 and 23-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pocrass in view of Miller et al..

With respect to claims 13-19 and 23-29, Pocrass discloses a computer networking system in Figure 15 comprising a first processor module 8b, a second processor module 8c, a first transceiver 50a, and a second transceiver 50b for communication through an I/O module 6a. Figure 10 shows a channel interface of one of the transceivers 50a and 50b including a connector 182 which corresponds to the link level protocol, a differential driver 190 or 194 which is controlled by a downlink data or video data which is inherently controlled by an impedance control circuit for controlling the impedance between the transceivers over a transmission line, a line equalizer 186, and a differential receiver 188.

Pocrass fails to show or suggest that the output signal of the differential receiver 188 to be deskewed.

Miller discloses a transceiver circuit in Figure 5 comprising data receivers 216 and deskew buffers 506 for temporary storing the deskewed data prior the transmission of the received data.

Therefore, it would have been obvious to one of ordinary skill in the art to deskew the received data before further processing of the received data as taught by Miller.

Allowable Subject Matter

13. Claims 1-3 and 5-6 are allowed.
14. Claims 4 and 7 would be allowable if rewritten or amended to overcome the objection(s) set forth in this Office action.
15. The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to show or suggest that a communication channel or transceiver comprises the combination of a link level protocol, a driver including a driver circuit and an impedance control circuit, a canceller/equalizer, a receiver and a deskew circuit, wherein the equalizer is connected to the input and output of the driver and the receiver is connected to the output of the equalizer.

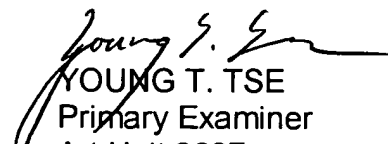
Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. JP02003008427A discloses a signal transmission circuit comprising a driver circuit, an equalizer, and a receiver circuit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOUNG T. TSE whose telephone number is (571) 272-3051. The examiner can normally be reached on Monday-Thursday and alternative Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The Central FAX Number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


YOUNG T. TSE
Primary Examiner
Art Unit 2637